

Appln No.: 09/581,058
Amendment Dated: August 3, 2004
Reply to Office Action of February 3, 2004

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-21. (canceled)

22. (previously presented) A connecting device to be used in conjunction with a percutaneous bone-anchored transferring device, the percutaneous bone-anchored transferring device having an annular body member manufactured of a tissue-compatible material, the annular body member comprising a cavity, an interior surface, an exterior surface, an upper part and a bottom part, wherein the cavity extends from the upper part to the bottom part, and wherein the surface of the annular body member inside the cavity is defined as the interior surface, and wherein the surface of the annular body member outside of the cavity is defined as the exterior surface, and having radial arms extending radially outward from the annular body member along a line defining the transition between the upper part and the bottom part, wherein the radial arms are manufactured of a tissue-compatible material, and wherein one or more of the radial arms contains at least one hole, said connecting device comprising:

a first connection unit, wherein the first connection unit comprises:

a wall member defining a substantially cylindrical cavity, said cylindrical cavity having an open top and a partially-closed bottom; and

a flange extending outward around a circumference of the wall member,

wherein the wall member is shaped to fit at least partially inside the bottom part of the percutaneous bone-anchored transferring device such that the open top is introduced into the cavity of the bottom part of the percutaneous bone-anchored transferring device and the partially-closed bottom abuts the exterior surface of the bottom part of the percutaneous bone-anchored transferring device, and wherein the partially-closed bottom contains a side opening;

a middle connecting unit, wherein said middle connecting unit is a substantially cylindrical holder, with a first end and a second end and an opening extending completely through from the first end through the second end, designed to fit inside the cavity of the upper part of the percutaneous bone-anchored transferring device such that the first end is positioned near the first connection unit; and

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an outer contact unit, wherein said outer contact unit is a substantially cylindrical holder having a lower end and an upper end, wherein the lower end is designed to fit inside the cavity of the upper part of the percutaneous bone-anchored transferring device such that the lower end is positioned near the second end of the middle connecting unit, and wherein the upper end is designed to reside above the upper part of the percutaneous bone-anchored transferring device.

23. (previously presented) The connecting device of claim 22, wherein said flange on the first connection unit has a triangular cross section with the base of the triangular cross section contiguous with the wall member and the apex extending radially outward from the wall member such that the apex is extending its maximum amount near the partially-closed bottom, and wherein a limiting surface is provided within the interior surface of the bottom part of the percutaneous bone-anchored transferring device by contouring the cavity near its entrance to form an outwardly increasing diameter of the cavity, such that when the open top is introduced into the cavity of the bottom part of the percutaneous bone-anchored transferring device, the flange abuts to the limiting surface of the percutaneous bone-anchored transferring device.

24. (previously presented) The connecting device of claim 22, wherein the flange is disposed on the wall member such that the bottomward side of the triangle section forms a taper at the bottom of the connecting device.

25. (previously presented) The connecting device of claim 22, wherein in the first connection unit the open top of the wall member is releasably connected to the interior surface of the percutaneous bone-anchored transferring device using a screw joint and locking nut.

26. (previously presented) The connecting device of claim 22, wherein in the first connection unit the open top of the wall member is provided with a membrane.

27. (previously presented) The connecting device of claim 22, wherein the outer contact unit is releasably arranged in the middle connecting unit such that the outer contact unit and the middle connecting unit will be released from each other at a predetermined load on the outer contact unit.

28. (previously presented) The connecting device of claim 22, wherein the opening of the middle connecting unit is provided with a membrane.

29. (previously presented) The connecting device of claim 22, wherein the middle connecting unit contains a circular groove extending all the way around the middle connecting unit.

30. (previously presented) The connecting device of claim 22, wherein the middle connecting unit contains slotted radially spring-biased arms that rest against the interior surface of the upper

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part of the percutaneous bone-anchored transferring device.

31. (previously presented) The connecting device of claim 22, wherein the middle connecting unit comprises a number of electrically conductive contact sheets for obtaining an electrical transfer.

32. (previously presented) The connecting device of claim 22, further comprising:

an electrical connection unit having an upper surface and a lower surface, wherein the electrical connection unit is arranged inside the first connection unit such that a set of cables extending from the lower surface of the electrical connection unit is drawn out through the side opening of the first connection unit and electrically conductive elements extend from the upper surface of the electrical connection unit;

a second connection unit comprising electrically conductive contacts on a first side and a positive pole, a negative pole, and a signal pole on a second side, wherein the electrically conductive contacts on the first side contact the electrically conductive elements of the upper surface of the electrical connection unit such that an electrical connection is formed between the electrical connection unit and the second connection unit, and wherein the second connection unit is in turn introduced into first end of the middle connecting unit; and

three different poles (a positive pole, a negative pole, and a signal pole) arranged around the second end of the middle connecting unit and connected to the corresponding poles on the second side of the second connection unit and connected via metal sheets or pins to the outer contact unit.

33 - 36. (canceled)

37. (newly presented, previously claim 33) A combination of a percutaneous bone-anchored transferring device and a connecting device, wherein

the percutaneous bone-anchored transferring device comprises:

an annular body member manufactured of a tissue-compatible material, the annular body member comprising

- a cavity,
- an interior surface,
- an exterior surface,
- an upper part and a bottom part,

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wherein the cavity extends from the upper part to the bottom part, and wherein the surface of the annular body member inside the cavity is defined as the interior surface, and wherein the surface of the annular body member outside of the cavity is defined as the exterior surface; and

a plurality of separate radial arms extending radially outward from the annular body member along a line defining the transition between the upper part and the bottom part, wherein the radial arms are manufactured of a tissue-compatible material, and wherein one or more of the radial arms contains at least one hole, and

the connecting device comprises:

a first connection unit, wherein the first connection unit comprises:

a wall member defining a substantially cylindrical cavity, said cylindrical cavity having an open top and a partially-closed bottom; and a flange extending outward around a circumference of the wall member, wherein the wall member is shaped to fit at least partially inside the bottom part of the percutaneous bone-anchored transferring device such that the open top is introduced into the cavity of the bottom part of the percutaneous bone-anchored transferring device and the partially-closed bottom abuts the exterior surface of the bottom part of the percutaneous bone-anchored transferring device, and wherein the partially-closed bottom contains a side opening;

a middle connecting unit, wherein said middle connecting unit is a substantially cylindrical holder, with a first end and a second end and an opening extending completely through from the first end through the second end, designed to fit inside the cavity of the upper part of the percutaneous bone-anchored transferring device such that the first end is positioned near the first connection unit; and

an outer contact unit, wherein said outer contact unit is a substantially cylindrical holder having a lower end and an upper end, wherein the lower end is designed to fit inside the cavity of the upper part of the percutaneous bone-anchored transferring device such that the lower end is positioned near the second end of the middle connecting unit, and wherein the upper end is designed to reside above the upper part of the percutaneous bone-anchored transferring device.